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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,433	12/07/2001	Karlheinz Haubennestel	1238.006US2	8353

21186 7590 02/05/2003

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EXAMINER

MULLIS, JEFFREY C

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 02/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/010,433	HAUBENNESTEL ET AL.	
	Examiner	Art Unit	
	Jeffrey C. Mullis	1711	

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 12-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 12-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/240,661.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4.5</u> . | 6) <input type="checkbox"/> Other: _____ |

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Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

An application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification or in an application data sheet (37 CFR 1.78(a)(2) and (a)(5)).

No translation of JP 63-154769 has been received by the Office. Only a translated cover page for this patent was attached to the IDS of 3-1-02. Therefore no translation has been considered.

It is noted that the specification refers to a number of references that have not been submitted. Note that MPEP § 6.49.06 recites that "The listing of references in the specification is not a proper Information Disclosure Statement. 37 CFR 1.98(b) requires a list of all patents, publications or other information submitted for consideration by the Office, MPEP § 609(A)(1) states "The list may not be incorporated into the specification but must be submitted in a separate paper". Therefore unless the references have been cited by the Examiner on Form PTO-892, they have not been considered.

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Claims 1-8 and 12-16 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

The term "molecular weight" is unclear when unqualified as to the type of molecular weight.

Note Nikitin page 64 at the first complete paragraph which discloses that for cellulose "or any other high polymer" the difference between number average and weight average molecular weights "may be very considerable". Note also "Mandelkern" in the section entitled "Preparation" starting on page 19 who discusses the types of mechanisms involved in polymerization and who discloses at the first complete paragraph on page 23 that:

"From the simple considerations of the two basic polymerization mechanisms we have found that the polymer molecules formed will not have all the same molecular weight or chain length. Usually, the broad molecular weight distributions result. The constitution of the system must then be described either by a set of different average molecular weights or by the distribution function itself (emphasis added). Many properties of polymeric systems depend on the details of the molecular weight distribution. The properties of chemically identical systems can be quite

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different depending upon whether this distribution is narrow or broad."

Note also the first sentence of the second paragraph on page 38 which discloses that "(t)he weight average will always be greater than the number average".

Note also Fred who discloses in Section 1.3.1 on page 16 that:

"A typical synthetic polymer sample contains chains with a wide distribution of chain lengths. This distribution is seldom symmetric and contains the molecules of very high molecular weight. An illustration of a representative distribution is shown in Figure 1.8. The exact breadth of the molecular weight distribution depends on the specific conditions of polymerization as will be described in Chapter 2. For example the polymerization of some polyolefins results in a molecular weight distribution that is extremely broad, while it is possible to polymerize some polymers, such as polystyrene with nearly monodispersed distributions under laboratory conditions. Therefore it is necessary to define an average molecular weight to characterize an individual sample as detailed in the following section (all emphasis added)".

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Note the first paragraph of page 18 which discloses

"A measure of the breadth of the molecular weight distribution is given by the ratios of molecular weight averages. For this purpose the most commonly used ratio is M_w/M_n , which is called the *polydispersity index* or PDI. PDI's of commercial polymers vary widely. For example commercial grades of polystyrene with M_n over 100,000 have polydispersity indices between 2 and 5 while polyethylene synthesized in the presence of a stereospecific catalyst may have a PDI as high as 30."

The Examiner points out that the weight average molecular weight of the above referred to polystyrene would be 2-5 times higher than its number average and the weight average molecular weight of the referred to polyethylene will be 30 times its number average molecular weight.

The term preferably renders the claims unclear since it cannot be determined if the claims are limited to the preferred embodiment.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject

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matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-8 and 12-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Legrand et al. (WO 9728200).

Legrand discloses pigment dispersants containing a polymer produced by polymerization of a hydrophilic macromer, (page 4 lines 1-8), a heterocyclic monomer (page 3 lines 13-22) and another monomer (page 3 lines 23-31). Note Tables 2 and 3 and Examples 2, 4 and 9-14 therein in which applicants' specific monomers are used although not in applicants' percentages. However as set out above, patentees teach applicants' percentages on pages 3 and 4 of the patent.

It would have been obvious to a practitioner having ordinary skill in the art at the time of the invention to use applicants' percentages in the composition of patentees given that patentees specifically disclose such percentages and in the expectation of adequate results absent any showing of surprising or unexpected results.

Claims 1-8 and 12-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tetsuo (JP 63154769).

Tetsuo discloses a dispersant containing a macromer at a level of 0.5-93% including polyacrylate macromers, an unsaturated

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heterocyclic monomer and another monomer such as acrylic acid. Note the Abstract and page 481 in the first paragraph thereof.

Patentees provide no examples containing applicants' specific combination of macromer and monomers in applicants' percentages although applicants' percentages fall within the broad ambit of the patent as set out in the Abstract thereof.

It would have been obvious to a practitioner having ordinary skill in the art at the time of the invention to produce a branched polymer based on the disclosure of Tetsuo since Tetsuo specifically discloses that applicants' materials may be used in applicants' amounts and in the expectation of adequate results absent any showing of surprising or unexpected results.

Any inquiry concerning this communication should be directed to Jeffrey Mullis at telephone number (703) 308-2820.

J. Mullis:cdc
February 4, 2003

Jeffrey Mullis
Primary Examiner
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